

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, December 12, 1895.—“Impact with a Liquid Surface, studied by means of Instantaneous Photography.” By Prof. A. M. Worthington, F.R.S., and Mr. R. S. Cole.

This communication was the first instalment of a review by the aid of instantaneous photography of the ground covered by three previous papers (*Roy. Soc. Proc.*, vol. xxv. pp. 261 and 498, 1877, and *ibid.*, vol. xxxiv. p. 217, 1882), in which the phenomena that accompany various kinds of splashes are described. The advance made lies in the unquestionable accuracy and fullness of detail of the information now afforded.

Chemical Society, February 6.—Mr. A. G. Vernon Harcourt, President, in the chair.—The following papers were read:—The molecular weight and formula of phosphoric anhydride and of metaphosphoric acid, by W. A. Tilden and R. E. Barnet. Vapour density determinations of phosphoric anhydride show that it has the molecular composition P_4O_{10} ; metaphosphoric acid, which partially dissociates into water and the anhydride on heating, is similarly shown to have the formula $H_2P_2O_6$.—Lead tetracetate and the plumbic salts, by A. Hutchinson and W. Pollard. Lead tetracetate, prepared by dissolving red lead in acetic acid, crystallises in monosymmetric needles. Lead tetraphosphate and tetrapropionate have also been prepared.—An improved method of determining urea by the hypobromite process, by A. H. Allen. The incomplete evolution of nitrogen occurring when hypobromite is added to urea may be avoided by mixing potassium cyanate with the urea solution; it is also preferable to run the urea and cyanate solution into the hypobromite instead of *vice versa*.—Preliminary note on the absorption of moisture by deliquescent salts, by H. W. Hake. The author has determined the amount of water absorbed by exposing deliquescent salts to the air, and finds that in many cases the amount of water taken up points to the formation of a definite hydrate.—Some derivatives of γ -phenoxyethylmalonic acid and of γ -phenoxyethylacetic acid, by W. H. Bentley, E. Haworth, and W. H. Perkin, jun.—Note on the preparation of glycol, by E. Haworth and W. H. Perkin, jun.—Luteolin, by A. G. Perkin. Luteolin, the yellow colouring matter of Weld (*Rosa luteola*), has the composition $C_{15}H_{10}O_6$, combines with mineral acids, and yields tetracidic derivatives; it seems to be allied to its isomeride fisetin.—An examination of the products obtained by the dry distillation of bran with lime, by W. F. Laycock. On distilling bran with quicklime an aqueous and oily distillate is obtained, which contains ammonia, ketones, ethylic alcohol, pyridines, pyrrolines, furfurans, hydrocarbons, and an indole.—Constitution of glycocine, by Jōji Sakurai.

Entomological Society, February 5.—Prof. Raphael Meldola, F.R.S., President, in the chair.—The President announced that he had nominated Dr. D. Sharp, F.R.S., Mr. Roland Trimen, F.R.S., and Mr. Walter F. H. Blandford, Vice-Presidents for the Session 1896-97.—Mr. Waterhouse exhibited pupæ and portions of pupæ of a silk moth, *Antheraea mylitta*, selected from some scores of specimens, which he had opened to see if they showed stages of development agreeing with the examples given by Dr. Spuler. The results appeared to confirm Dr. Spuler's researches; some specimens showed the tracheæ, the median vein having two branches, very rarely emitting a third branch in the direction of the radial. Other specimens had faint indications of the veins and of the discoidal spot of the imago. Even at this very early stage the vein branching from the subcostal vein to unite with the upper radial, and the short branch uniting the second median vein with the third median were distinctly traceable, no tracheæ being yet visible in these branches. Mr. Merrifield, Mr. Hampson, and Dr. Sharp took part in the discussion which ensued.—Mr. E. E. Green remarked that in the *Trans. Ent. Soc.*, 1881, p. 601, there was a short paper by the late Prof. J. O. Westwood, describing a curious little insect from Ceylon under the name of *Dyscritina longisetosa*. Prof. Westwood believed his typical specimens to be immature. Mr. Green exhibited what he supposed to be a later stage of the same species. He said his example differed in some particulars from Westwood's description and figure—notably in the proportions of the caudal appendages. Prof. Westwood pointed out the affinities of *Dyscritina* to the Forficulidae. This was very apparent in the specimen under consideration. Putting aside the nature of the caudal appendages the insect was in all particulars an earwig. The present

specimen was taken in the Punduloya district of Ceylon, at an elevation of about 4000 feet. Mr. Green said he had more than once seen this insect under loose pieces of bark and in crevices of rocks, and had always been struck by its likeness to an earwig both in appearance and habits. Mr. McLachlan, F.R.S., Dr. Sharp, Mr. Gahan, Mr. Blandford, and Mr. Hampson made some remarks on the subject.—Mr. O. E. Janson exhibited a Goliath beetle, from the Upper Congo, which he believed to be the male of *Goliathus rufus*, Kolbe, described from a unique female example in the Berlin Museum.—Mr. Blandford called attention to the case of the eye of a boy affected with inflammation caused by the hairs of the larvæ of *Lasiocampa rubi*. The attack recurred after an interval of nineteen weeks, and in several continental cases this recurrence of the attack had been found to take place, and in some cases permanent injury to the eye had followed. Mr. Blandford discussed the various kinds of hairs on several caterpillars, certain species having hairs of two kinds, one kind being barbed, and thus having the power to work into the skin. He said that the urticating property of the hairs appeared to be mechanical: there was no evidence of any poison glands. Mr. Lawford said he had had some difficulty in discovering hairs in the lid, and he thought that the symptoms in the case in question were not to be explained by mechanical irritation due to the presence of hairs in the tissues. The subject was a new one to him, and he had looked up all the medical literature bearing on it. Lord Walsingham, F.R.S., Mr. Tutt, Prof. Poulton, F.R.S., Canon Fowler, and Mr. Jacoby made some remarks on the subject.—Dr. F. A. Dixey read a paper entitled “On the Relation of Mimetic Patterns to the Original Form.” The paper was illustrated by a number of coloured diagrams. Prof. Poulton expressed his gratification with the paper, and that the Hope Collection under his charge had afforded material for the work. He thought the result of the paper was to give support to the theories of Fritz Müller rather than to those of Bates. Mr. Blandford, Mr. Tutt, and Prof. Meldola continued the discussion.—Dr. Sharp contributed a paper entitled “The Rhynchophorous Coleoptera of Japan. Part iv.”

Linnean Society, February 6.—Mr. C. B. Clarke, F.R.S., President, in the chair.—Sir W. H. Flower, K.C.B., F.R.S., presented to the Society, on behalf of the subscribers, a portrait of Mr. William Carruthers, F.R.S., a former President of the Linnean Society, painted by Mr. J. Hay. At the motion of Mr. J. G. Baker, F.R.S., it was resolved that the portrait be accepted, and that a cordial vote of thanks to the donors be recorded.—Prof. C. Stewart exhibited a series of dissections of skulls, illustrating the development of air cavities. The skull of a herring, carefully dissected to show the relations of the ampullæ of the pneumatocyst to the cranial bones; of a crocodile, to show those of the extra tympanic cavity and siphonium; of a rook, to show the limitations and relationships of the vesicular and other strata of the cranial roof; and of a chinchilla and a *Phascogaleus*, to illustrate the variations and development of the “bulla” and of its associated structures, were the chief objects shown. Prof. Stewart expressed himself favourable to the belief that the parts mentioned in the herring are functional for acoustic purposes. In this he was supported by Prof. Howes, who referred in detail to the arrangements occurring in *Hyodon* and *Myonomys* as substantiating this conclusion.—On behalf of Mr. B. G. Cormack, Dr. D. H. Scott gave the substance of a paper on polystelic roots of certain palms. He remarked that with scarcely any exception roots show one normal vascular bundle or stele. The author, utilising material from Ceylon, found that in *Areca Catechu*, Linn., *Cocos nucifera*, Linn., and a species of *Verschaffeltia*, the young roots agree with this condition, but on examining older and thicker portions of the same roots, he found many steles present. After discussing the origin of this, the author considered the change to be primary, not secondary, and suggested that these roots might serve as props to the stem. The paper was criticised by Mr. George Murray and Prof. Trail, Dr. Scott replying to objections. Mr. R. Morton Middleton then read a paper on a remarkable use of ants in Asia Minor, communicated by Mr. Miltiades Issigonis, of Smyrna. It was stated that the Greek barber-surgeons of the Levant employed a large species of ant for the purpose of holding together the edges of an incised wound. The ant, held with a forceps, opens its mandibles wide, and being then permitted to seize the edges of the cut, which are held together for the purpose, as soon as a firm grip is obtained the head is severed from the body. Mr. Issigonis had seen natives with wounds in

course of healing, with the assistance of seven or eight ants' heads. The species of ant referred to was a large-headed *Camponotus*, not unlike one found in India. Mr. Middleton recalled the fact that a similar observation, concerning a species of ant in Brazil, had been recorded many years ago by Mr. Mocquerys, of Rouen (*Ann. Soc. Entom. France*, 2^{me} sér. ii. 67), as quoted by Sir John Lubbock in his work on ants, bees, and wasps; but the observation, strange to say, had not been confirmed either by Bates or Wallace during their travels in South America. Dr. John Lowe pointed out that in this operation apparently no attention was paid to the usual antiseptic precautions which are regarded as indispensable in modern surgery. Sir William Flower considered the observation of much interest from an ethnological point of view, as showing the independent existence of the same custom in countries so far apart as Brazil and Asia Minor.

Mathematical Society, February 13.—Prof. M. J. M. Hill, F.R.S., Vice-President, in the chair.—The Chairman read the opening paragraphs of a paper by Prof. Forsyth, F.R.S., entitled "Geodesics on a Quadric, not of Revolution."—Prof. Elliott, F.R.S., gave an account of a paper by Mr. A. L. Dixon, on the potential of cyclides.—Mr. Love, F.R.S. (Hon. Sec.), communicated a paper on solid ellipsoidal vortex, by Mr. R. Hargreaves.—Dr. J. Larmor, F.R.S., and Lieut.-Colonel Cunningham took part in the discussions on the papers.—The Chairman (Mr. M. Jenkins, Vice-President *pro tem.*, in the chair) and Mr. Tucker (Hon. Sec.) made short impromptu communications. The latter was to the effect that if any square PQRS be inscribed in a circle ABC, and the Wallace lines of P, Q, R, S, with regard to the triangle ABC be drawn, they form by their intersection a quadrilateral the mid-points of whose three diagonals are the centre and ends of a diameter of the nine-point circle of ABC.

Zoological Society, February 18.—Prof. G. B. Howes in the chair.—A communication was read from Dr. Arthur G. Butler on the butterflies obtained in Arabia and Somaliland by Captain Charles G. Nurse and Colonel J. W. Yerbury in 1894-95.—A communication was read from Lord Walsingham, F.R.S., and Mr. G. F. Hampson, on the moths collected at Aden and Somaliland by the same naturalists and by other collectors.—Mr. F. E. Beddard, F.R.S., communicated (on behalf of Miss Marion Newbigin) a paper dealing with the metallic colours of humming-birds and sun-birds. It had been held that these peculiarly coloured feathers played some special part in the economy of the bird, for they could not be of much use for flight owing to the disconnected barbules. The author combated this view, pointing out in the first place that the statement of fact did not apply to all humming-birds, in the metallic feathers of which the barbules were often connected by cilia. It was urged in the next place that the very perfection of the flight of humming-birds led to correlated variations in feather structure productive of their especially brilliant metallic tints. The difficulty of the plain-coloured swifts—possibly near allies of the humming-birds—was met by the suggestion that the latter have fewer enemies, and had therefore had greater scope of possible colour-variation.—Mr. C. W. Andrews read a note on a skull of *Orycteropus gaudryi*, an extinct species of ant-bear from the Lower Pliocene deposits of Samos, originally discovered and described by Dr. C. J. Forsyth-Major.—Mr. Frank E. Beddard, F.R.S., read a paper upon the anatomy of the Scissor-bill (*Rhynchops*), in which the structure of the viscera and muscles of this bird were described. The muscular anatomy was found to differ greatly from that of the gulls, skuas, and terns, and was held amply to justify its separation as a distinct subfamily *Rhynchopina*.

PARIS.

Academy of Sciences, February 17.—M. Cornu in the chair.—Preparation and properties of cerium carbide, by M. H. Moissan. This substance, of which the composition is CeC_2 , is produced in the electric furnace from charcoal and CeO_2 . Its properties and reactions are similar to those of other carbides previously described, water, however, giving a gas containing ethylene (4 per cent.), methane (21 per cent.), and acetylene (75 per cent.), the composition of the gas obtained in different experiments being very constant. A small proportion of the carbon is obtained in the form of liquid and solid hydrocarbons.—On carbide of lithium, by the same. This carbide, LiC_2 , forms a transparent crystalline mass, which, on account of its high percentage of carbon (69 per cent.), acts as a powerful reducing agent. It is

volatile at the temperature of the electric furnace, with partial decomposition into its elements, and on treatment with water yields pure acetylene.—Observations of the Perrine comets (α 1896 and ϵ 1895) made at the Observatory of Paris, by M. G. Bigourdan.—Observations on the Perrine comet made with the large equatorial at the Observatory of Bordeaux, by M. L. Picart.—On the integration of some partial differential equations, by M. Le Roy.—On Taylor's theorem, with approximation to the third degree, by M. N. Bougaief.—On groups of substitutions, by M. A. Miller.—On sensitive flames, by M. E. Bouty. A study of the influence of the nature of the gas on the sensibility to sound. The sensitiveness of a pure hydrogen flame is very small, but it can be increased by the addition of a sufficient proportion of an inert gas, such as nitrogen or carbon dioxide. Pure acetylene gives only a moderately sensitive flame, but a mixture of equal volumes of hydrogen and acetylene responds readily to the ticking of a watch.—On the lowering of the static and dynamical explosive potentials by the X-rays, by M. R. Swyngedauw.—Electric phenomena produced by the Röntgen rays, by M. A. Righi.—Action of the Röntgen rays on the electrostatic charges and the explosive distance, by MM. J. J. Borgman and A. L. Gerchun.—New researches on the X-rays, by MM. Benoist and D. Hurmuzescu.—Photographic researches on the Röntgen rays, by MM. Auguste and Louis Lumière.—An experiment showing that the X-rays proceed from the anode, by M. de Heen.—Photographs obtained with the Röntgen rays, by MM. A. Imbert and H. Bertin-Sans.—On the property possessed by phosphorescent rays of passing through bodies opaque to solar light, by M. G. H. Niewenglowski.—Nature and properties of dark light, by M. Gustave Le Bon.—Photographic prints obtained in the dark, by M. A. Briançon.—On a rapid method for the estimation of arsenic, by MM. R. Engel and J. Bernard. The arsenic is precipitated in hydrochloric acid solution by hypophosphorous acid, and titrated with standard iodine solution in presence of sodium bicarbonate. The results of the test analyses are satisfactory.—Partial synthesis of geranic acid and constitution of lemonol and lemonal, by MM. P. Barbier and L. Bouveault.—On some derivatives of eugenol, by M. Ch. Gassman.—On the composition of fire-damp, by M. T. Schloësing, jun. A careful examination of the combustible gas in sixteen samples of fire-damp, from various mines, showed that in thirteen cases the hydrocarbon was pure methane; in the other three, besides methane, traces of ethane (from 2-4 per cent.) appeared to be present.—Walking and running *en flexion*, by MM. Comte and Regnault. A study of a new method of walking and running called *en flexion*, on account of a sudden bend of the knee at a particular point of the stride. It is shown that in this method, which has already been proved to be of great practical advantage in the movement of troops, the vertical oscillations of the body are rendered more gradual, besides being reduced in magnitude. A dynamographic study of the variations of the pressure on the feet also brings out the same point, sudden variations of pressure disappearing from the curve.—On a new application of photography, by M. G. Guérault.—Some applications of a mode of production of colour, hitherto unexplained, by M. C. Henry.—Undulatory irradiation of luminous impression, by M. A. Charpentier.—Assimilation and activity, by M. P. Vuillemin.—On an epidemic of pneumonia of the hare, caused by *Strongylus retortiformis*, Zeder, by M. E. Yung.—The lacunar apparatus of the starfish, by M. L. Cuénot.

BERLIN.

Physiological Society, January 10.—Prof. Munk, President, in the chair.—Dr. Joachimsthal spoke on a supposed self-regulative process in muscles as based on the observation that the calf-muscles are long and thin in negroes, but short and thick in whites. This depends on the relative lengths of the calcaneum. In the negro the muscle is inserted on a longer arm of this bone, and this necessitates a more extended contraction of the muscle; in a white man the arm is shorter, but this requires a correspondingly greater force, and hence the muscle is shorter and thicker. An experiment had been made by Marey on rabbits with reference to the above, and the speaker described some recently made by himself on a cat in support of his views. In the subsequent discussion considerable objection was raised against the validity of the experiments, some of the results being attributed to muscular atrophy.—Prof. Zuntz reported on experiments made by Dr. Lewin, of New York, in which, using a dog, the stomach had been connected directly with the intestine so as

to exclude that portion into which the ducts of the liver and pancreas open. He then fed the animal on cream, and found that in no single case was any of the emulsified fat absorbed.—Dr. R. du Bois Reymond exhibited a number of Röntgen photographs.

January 24.—Prof. du Bois Reymond, President, in the chair.—Dr. Apolant spoke on the ciliary ganglion, which has at one time been regarded as a spinal, at another time as a sympathetic structure, these views being based on anatomical, morphological, embryological and physiological researches. Of late years it has been shown by stimulation that this ganglion is in the closest relationship to the oculomotor nerve, and the speaker had made experiments on cats and found that the degeneration set up by section of this nerve progresses only as far as the cells of the ganglion; whereas the latter, as well as the ciliary nerves which spring from them, remain intact. He hence concluded that the ganglion belongs to the sympathetic system.—Dr. Rawitz described how he had, by means of his new method of staining, investigated the attraction-spheres in the testicular cells of salamander maculosa during the first stages of division. He found that the sphere, which is stained dark by alizarin, becomes larger and stains less deeply, after which amœboid processes make their appearance on its surface. These then separate off in a globular form, whereby the sphere becomes divided up into some six or nine small dark spherules. Later on the central zone of the sphere becomes elongated, oval, and spindle-shaped, the spherules arranging themselves longitudinally in the axis of the spindle. After this the central spherules disappear, leaving only the two polar end particles, which then undergo the ordinary well-known later changes. These observations were made on salamanders caught in June; later in the year, the above phases were no longer to be seen.

DIARY OF SOCIETIES.

LONDON.

THURSDAY, FEBRUARY 27.

ROYAL SOCIETY, at 4.30.—On the Spinal-Root Connections and Ganglion-cell Connections of the Nerve Fibres which produce Contraction of the Spleen; Prof. Schäfer, F.R.S., and B. Moore.—A Method for rapidly producing Diphtheria Antitoxins. Preliminary Note: Dr. C. Wood.
ROYAL INSTITUTION, at 3.—Some Aspects of Modern Botany: Prof. H. Marshall Ward, F.R.S.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Electric Wiring Question: F. Bathurst.—Concentric Wiring: Sam. Mavor.—High-Voltage Lamps and their Influence on Central Station Practice: G. L. Addenbrooke.
SOCIETY OF ANTIQUARIES, at 8.30.

FRIDAY, FEBRUARY 28.

ROYAL INSTITUTION, at 9.—Marine Organisms and their Conditions of Environment: Dr. John Murray.
PHYSICAL SOCIETY, at 5.—Experiments with Incandescent Lamps: Sir D. Salomons.—The Alternating Current Arc: Messrs. Fleming and Petavel.
INSTITUTION OF CIVIL ENGINEERS, at 8.—Loughborough Sewage-Disposal Works: Arthur S. Butterworth.

SATURDAY, FEBRUARY 29.

ROYAL INSTITUTION, at 3.—Light: Lord Rayleigh, F.R.S.

MONDAY, MARCH 2.

SOCIETY OF ARTS, at 8.—The Chemistry of certain Metals and their Compounds used in Building, and the Changes produced in them by Air, Moisture, and Noxious Gases, &c.: Prof. J. M. Thomson.
SOCIETY OF CHEMICAL INDUSTRY (Burlington House), at 8.—Artificial Silk: Messrs. Cross and Bevan.
VICTORIA INSTITUTE, at 4.30.—Paper by Dr. Guppy.

TUESDAY, MARCH 3.

ROYAL INSTITUTION, at 3.—The External Covering of Plants and Animals: Prof. Charles Stewart.
SOCIETY OF ARTS, at 8.—The Commercial Prospects of English East Africa and British Central Africa: G. Scott Elliot.
ZOOLOGICAL SOCIETY, at 8.—Remarks on the Divergences between the "Rules for Naming Animals" of the German Zoological Society and the Stricklandian Code of Nomenclature (to introduce a discussion on Zoological Nomenclature): P. L. Slater, F.R.S.—On the Ornithological Researches of M. Jean Kalinowski in Central Peru: Graf Hans v. Berlepsch and J. Stolzmann.—On West Indian Terrestrial Isopod Crustaceans: Adrian Dollfus.
INSTITUTION OF CIVIL ENGINEERS, at 8.—On Littoral Drift in relation to River-Outfalls and to Harbour-Entrances: William Henry Wheeler.
PATHOLOGICAL SOCIETY, at 8.30.
ROYAL VICTORIA HALL, at 8.30.—A Visit to the Orkney Islands: J. Saxon Mills.

WEDNESDAY, MARCH 4.

SOCIETY OF ARTS, at 8.—Röntgen's Photography of the Invisible: A. A. Campbell Swinton.
BRITISH ARCHÆOLOGICAL ASSOCIATION, at 8.
ENTOMOLOGICAL SOCIETY, at 8.
SOCIETY OF PUBLIC ANALYSTS, at 8.—On the Estimation of the Diastatic Power of Malt: Dr. Walter J. Sykes and C. A. Mitchell.—Further Note on the Detection of Formalin: H. Droop Richmond and L. K. Boseley.—The Detection of Formalin: Otto Hehner.—Note on the Detection of Cotton-Seed Oil in Lard: E. J. Bevan.

NO. 1374, VOL. 53]

THURSDAY, MARCH 5.

ROYAL SOCIETY, at 4.30.
ROYAL INSTITUTION, at 3.—Masters of Modern Thought. I. Voltaire: Rev. William Barry.
LINNEAN SOCIETY, at 8.—Segmentally-disposed Thoracic Glands in the Larvæ of Trichoptera: Prof. Gustav Gilon.
CHEMICAL SOCIETY, at 8.—On the Explosion of Cyanogen: H. B. Dixon, E. H. Strange, and E. Graham.—On the Mode of Burning of Carbon: H. B. Dixon.—On the Detonation of Chlorine Peroxide: H. B. Dixon and J. A. Harker.—The Constitution of a New Acid resulting from the Oxidation of Tartaric Acid: H. J. H. Fenton.
SOCIETY OF ANTIQUARIES, at 8.30.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Results of Rain, River, and Evaporation Observations made in New South Wales, 1894: H. C. Russell (Sydney).—Studien zu Methodenlehre und Erkenntniskritik: F. Dreyer (Leipzig, Engelmann).—The Present Evolution of Man: G. A. Reid (Chapman).—Applied Magnetism: J. A. Kingdon (Alabaster).—By Tangled Paths: H. M. Briggs (Warne).—The Primary Factors of Organic Evolution: Prof. E. D. Cope (Open Court Publishing Company).—Calendar, History, and General Summary of Regulations of the Department of Science and Art, 1896 (Eyre).—British Moths: J. W. Tutt (Routledge).—Résultats de l'Examen de Dix Mille Observations de Hernies: Prof. P. Berger (Paris, Alcan).—The Methods of Microscopical Research: A. C. Cole, 2nd edition (Baillière).—Lehrbuch der Experimental Physik: Prof. E. Riecke (Leipzig, Veit).—Géométrie Descriptive: A. Gouilly (Paris, Gauthier-Villars).—Calendario del Santuario di Pompei, 1896 (Valle di Pompei).—Exercices in Physical Measurement: Drs Austin and Thwing (Boston, Allyn).—Leçons sur l'électricité et Le Magnétisme de E. Mascart et J. Joubert, deux édition. E. Mascart, tome premier (Paris, Masson).

PAMPHLETS.—The Ballarat Field (Robertson).—Geological Literature added to the Geological Society's Library during the Year ended December 31, 1895 (Geological Society).—Report of Observations of Injurious Insects, &c., 19th Report: E. A. Ormerod (Simpkin).—Realgymnasium des Johanneums zu Hamburg (Hamburg).

SERIALS.—Royal Natural History, Vol. v. Part 28 (Warne).—Beiträge zur Psychologie und Philosophie, i. Band, i. Heft (Leipzig, Engelmann).—Quarterly Journal of the Geological Society, No. 205 (Longmans).—The Aeronautical Annual, No. 2 (Wesley).—Princeton Contributions to Psychology, January (Princeton).—Psychological Review Index for 1895 (Macmillan).—National Geographic Magazine, February (Marlborough).—Bulletin de l'Académie Royale des Sciences, &c, de Belgique, 1896, No. 1 (Bruxelles).

CONTENTS.

PAGE

The Catalogue of Scientific Papers	385
Natural Selection and its Critics. By E. B. P.	386
Our Book Shelf:—	
Dana: "Minerals, and how to Study them."—H. A. M.	387
Carpenter: "Heating and Ventilating Buildings"	387
Macbride: "Lessons in Elementary Botany for Secondary Schools"	388
Dean: "Vegetable Culture"	388
Letters to the Editor:—	
The Röntgen Rays.—A. A. C. Swinton; Dr. Dawson Turner	388
The Cause of an Ice Age.—Sir Robert S. Ball, F.R.S.; Theodore Ryland	388
The Measurement of High Temperatures.—E. H. Griffiths, F.R.S.	389
Earth Tremors.—W. L. Dallas	390
"Roches moutonnées."—Prof. Grenville A. J. Cole	390
The Age of the Present Canadian Flora.—A. T. Drummond	391
Children's Drawings.—Rina Scott	391
The Röntgen Rays. By Prof. J. J. Thomson, F.R.S.	391
The Deepest Sounding yet known. (With Diagram.) By Admiral W. J. L. Wharton, F.R.S.	392
The Destruction of Trees by Lightning. By D.	393
The Great Madrid Meteor. (Illustrated.) By Augusto Arcimis	395
The Frilled Lizard: <i>Chlamydosaurus kingi</i> . (Illustrated.) By W. Saville-Kent	395
Notes.	398
Our Astronomical Column:—	
Cassegrain and Gregorian Reflectors	403
Wells' Algol Variable	403
The New Comet	403
Perrine's Comet (1895)	403
Magnetic Surveys	403
The Movements of the Terrestrial Pole during the Years 1890-95. (With Diagram.)	404
University and Educational Intelligence	405
Scientific Serials	405
Societies and Academies	406
Diary of Societies	408
Books, Pamphlets, and Serials Received	408